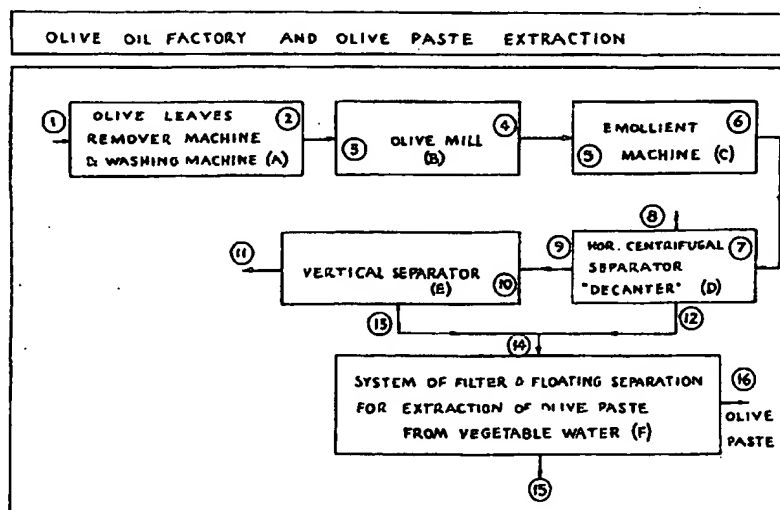




## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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**(54) Title:** METHOD OF EXTRACTION OF OLIVE PASTE FROM VEGETABLE WATER AND ITS USE AS A FOODSTUFF

**(57) Abstract**

The olive paste is a by-product of olives and is extracted from the vegetable water, the latter being up to now treated as liquid waste in olive oil factories. The density of olive paste within vegetable water is 3-5 % and the former is in the form of floating solid particles. The above method is the result of several procedures of extraction and culminates into an edible product, not a by-product anymore considered hazardous for the environment. The aforementioned foodstuff product is of high nutritional value. It is the result of a very simple process and it is readily mixable with other edible products.

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METHOD OF EXTRACTION  
OF OLIVE PASTE FROM VEGETABLE WATER  
AND ITS USE AS A FOODSTUFF

The present invention concerns the use of an olive by  
5 product, contained in the form of floating particles in a  
percentage of 3-5% within the liquid wastes of horizontal and  
vertical olive oil factory separators, as a foodstuff.

To the best of our knowledge, such a method as the above  
does not exist up to the present, a proof of which is the fact that  
10 olive oil producers get rid of the liquid wastes instead of utilizing  
them for the production of an edible product. Such wasting of this  
liquid mass results not only into the loss of a very valuable  
product, but to the contribution of heavy environmental pollution  
as well.

15 The present method achieves the extraction of olive paste  
from those liquid wastes in such a way that it converts a by  
product into a product of high nutritional value and furthermore  
it eliminates a serious problem of uncontrollable pollution.

These liquid wastes are a serious concern for olive oil  
20 producers primarily because the final recipients are rivers and the  
sea.

The advantages of this innovative method are the  
generation of an additional income, as well as the simplification  
and improvement of the further process stages for neutralization  
25 of the liquid waste and adsorption by nature. Olive paste may be  
produced within any centrifugal olive oil factory system.

Figure 1 is a schematic of an olive oil factory. Olives enter  
the olive leaves remover and washing machines **A** at point 1 where  
the leaves are removed and the fruit are washed. Subsequently  
30 the olives exit at point 2 and enter point 3 of the olive mill **B**  
where they exit from point 4 and enter through point 5 of the  
emollient machine **C** in pulp form. Following the emollescence, the

pulp mass exits point 6 entering point 7 of the horizontal centrifugal separator, «decanter» D. This decanter is a three phase device because it separates the olive pulp into its three constituents via centrifuging: olive oil, vegetable water and oil kernel. Each one of the above constituents leaves the decanter from point 9, point 12 and point 8, respectively, in a continuous flow. The oil enters the vertical separator E at point 10 for extra purification. This results in the production of pure oil at point 11.

Subsequently, vegetable water leaves both the horizontal and vertical centrifugal separators at points 12 and 13, respectively, culminating into a system F of filter and floating separation for extraction of olive paste from vegetable water. Such a separation can be achieved through filtering, sinking tanks and centrifuging independently or in conjunction with one another. Vegetable water exits through point 15 for further neutralization in subsequent process stages. Olive paste is extracted through point 16 and can be transported for further processing at standard production plants.

## CLAIMS

1. Method of extraction of olive paste from vegetable water found in olive oil factories characterized in that an edible paste is produced which is of nutritional value.
- 5 2. Method of extraction of olive paste from vegetable water found in olive oil factories as claimed in Claim 1, characterized in that prior to reaching the waste draining stage and immediately after exiting the centrifuging stage of olive oil factories, the olive floating particles are separated from waste fluids through  
10 filtering, sinking tanks and centrifuging independently, or in conjunction with one another.

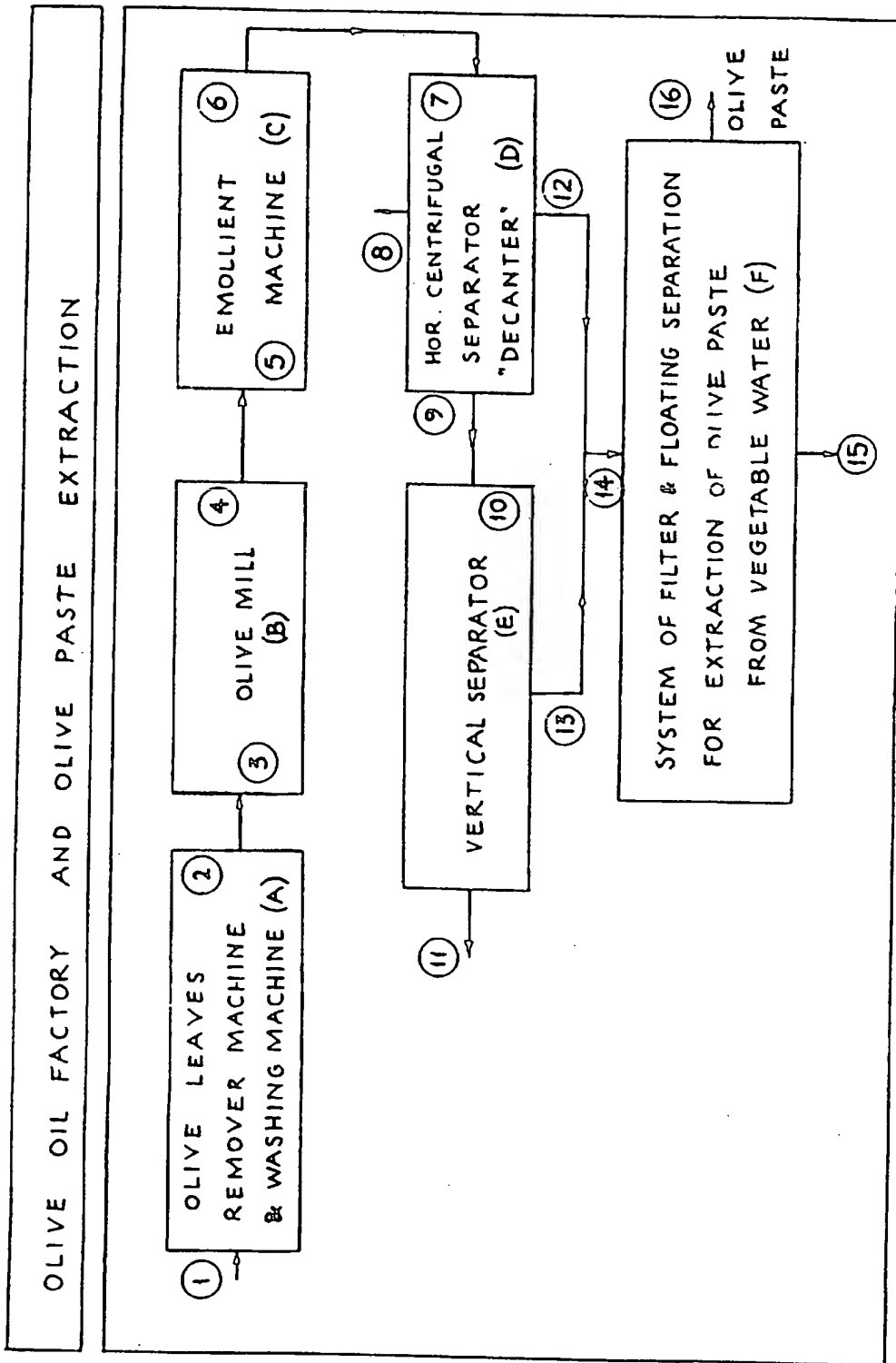


FIGURE 1

# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/GR 96/00002

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 6 C02F1/00 C11B13/00 A23L1/212

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
IPC 6 A23L C11B C02F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 370 274 A (FINCH HARVEY E ET AL) 25 January 1983 see figure 1 see column 4, line 10 - column 5, line 26 ---	1,2
X	WO 92 11206 A (TICON VVS A S) 9 July 1992 see page 1, line 1 - page 3, line 18 see page 4, line 15 - page 7, line 30 see page 13, line 25 - line 33 ---	1,2
X	EP 0 686 353 A (FLOTTWEG GMBH) 13 December 1995 see figures see column 6, line 13 - column 8, line 26 --- -/--	1,2

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Date of the actual completion of the international search

27 September 1996

Date of mailing of the international search report

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International Application No  
PCT/GR 96/00002

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

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E	<p>EP 0 718 397 A (TRATAMIENTO INTEGRAL DE  ALPECH) 26 June 1996  see the whole document</p> <p>-----</p>	1,2

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